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Nanjunda Swamy Satish Jamadagni

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SCHWEGMAN, LUNDBERG & WOESSNER, P.A.

P.O. BOX 2938

MINNEAPOLIS, MN 55402

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte NANJUNDA SWAMY SATISH JAMADAGNI

Appeal 2008-0292
Application 10/034,689¹
Technology Center 2100

Decided: June 20, 2008

Before: JEAN R. HOMERE, JAY P. LUCAS, and STEPHEN C. SIU,
Administrative Patent Judges.

LUCAS, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF CASE

Appellant appeals from a final rejection of claims 1 to 63 under authority of 35 U.S.C. § 134. The Board of Patent Appeals and Interferences (BPAI) has jurisdiction under 35 U.S.C. § 6(b).

¹ Application filed December 28, 2001. Appellant claims the benefit under 35 U.S.C. § 119 of provisional application 60/259443, filed 01/3/2001. The real party in interest Sasken Communication Technologies, Ltd.

Appellant's invention relates to a system and method to model and monitor events in a large communications network. In the words of the Appellant:

The present invention provides an event-correlation technique that can infer from patterns of events to achieve improved problem analysis in communication networks. Further, the technique adapts itself to uncertainties and changes in communication networks to better serve the needs of communication networks. This is accomplished by forming fuzzy cognitive maps including causally equivalent fragments using the network element interdependencies derived from a database defining the network managed objects and event notifications that can convey the state of one or more managed objects. The technique further samples generated incoming real-time events from the communication network. The sampled events are then mapped to the fragments to diagnose problems.
(Abstract).

Claim 1 is exemplary:

1. A method to diagnose a problem from multiple events in a system of managed components generating real-time events of problems, comprising:

forming fuzzy cognitive maps (FCMs) including causally equivalent FCM fragments using network element interdependencies derived from a database defining the network managed objects and event notifications that convey the state of one or more managed objects;

sampling generated incoming real-time events from the system; and

diagnosing problems by mapping the sampled events to the formed FCM fragments.

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Thomas D. Ndousse, *Computational Intelligence for Distributed Fault Management in Networks Using Fuzzy Cognitive Maps*, 1558-1562 (1996).

Zhi-Qiang Liu, *Contextual Fuzzy Cognitive Map for Decision Support in Geographic Information Systems* 495-507 (1999).

Thierry Marchant, *Cognitive Maps and Fuzzy Implications*, 626-637 (1999).

Rejections:

R1: Claims 1 to 18, 22 to 31, 33 to 39, 41 to 58, 62, and 63 stand rejected under 35 U.S.C. § 102(b) for being anticipated by Ndousse.

R2: Claims 19 to 21, 32, 40, and 59 to 61 stand rejected under 35 U.S.C. § 103(a) for being obvious over Ndousse in view of Liu and further in view of Marchant.

Appellant contends that the claimed subject matter is not anticipated by Ndousse, or rendered obvious by Ndousse in combination with Liu and Marchant, for failure of the references to teach claimed limitations. The Examiner contends that each of the claims is properly rejected.

Rather than repeat the arguments of Appellant or the Examiner, we make reference to the Briefs and the Answer for their respective details. Only those arguments actually made by Appellant have been considered in this opinion. Arguments which Appellant could have made but chose not to make in the Briefs have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii) (2004).²

² Appellant has not presented any substantive arguments directed separately to the patentability of the dependent claims or related claims in each group, except as will be noted in this opinion. In the absence of a separate argument with respect to those claims, they stand or fall with the (Footnote continued on next page)

We affirm the rejections.

ISSUE

The issue is whether Appellant has shown that the Examiner erred in rejecting claims 1 to 63 under 35 U.S.C. §§ 102 (b) and 103(a) respectively. The issue turns on whether the Ndousse reference teaches four elements of the rejected claims.

PRINCIPLES OF LAW

Appellant has the burden on appeal to the Board to demonstrate error in the Examiner's position. See *In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006) ("On appeal to the Board, an applicant can overcome a rejection [under § 103] by showing insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary indicia of nonobviousness.") (quoting *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)).

A disclosure that anticipates under 35 U.S.C. § 102 also renders the claim unpatentable under 35 U.S.C. § 103, for "anticipation is the epitome of obviousness." *Jones v. Hardy*, 727 F.2d 1524, 1529 (Fed. Cir. 1984). See also *In re Fracalossi*, 681 F.2d 792, 794 (CCPA 1982); *In re Pearson*, 494 F.2d 1399, 1402, (CCPA 1974).

"[T]he words of a claim 'are generally given their ordinary and customary meaning.'" *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (internal citations omitted). "[T]he ordinary and

representative independent claim. See *In re Young*, 927 F.2d 588, 590 (Fed. Cir. 1991).

customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Phillips v. AWH Corp.*, 415 F.3d at 1313.

ANALYSIS

From our review of the administrative record, we find that the Examiner has presented a prima facie case for the rejections of Appellant's claims under 35 U.S.C. §§ 102 and 103. The prima facie case is presented on pages 4 to 31 of the Examiner's Answer.

In opposition, Appellant presents four main arguments against the rejections.

Rejection under 35 U.S.C. § 102(b) [R1]

The first argument addresses whether Ndousse samples real time events. Appellant states, "[i]ndependent claims 1, 25 and 33 recites 'sampling generated incoming real-time events from the system.' Independent claim 41 also samples generated incoming real time events. No mention of such sampling is found in the reference." (App. Br., page 12, top). The Examiner points to the series of faults that are generated by a managed object on the network, f1, f2, f3,...fm, and calls these a sampling. Appellant argues that this is not a sample, but the entire collection of the faults. (Reply Br., page 2, top). We see nothing in the claims that limits a sample to being less than the complete collection of faults, and we do not find that the Examiner has unfairly read the sample on this set, when the claim is read broadly, as is proper during examination. A sample exists even if you have collected all of the signals; it is not improper to do 100% sampling. In addition, Ndousse teaches a discrete set of events, f1 to fm,

rather than a continuous set of conditions. Being discreet events, they are inherently samples of the continuous happenings in the network.

Appellant next contends that “[t]he claims also utilize a computer to form the fuzzy cognitive maps, expressly in claims 25 and 33, and by implication in claims 1 and 41,...”. “In Ndousse et al., FCMs [fuzzy cognitive maps] are constructed by experts, not by a computer. This is illustrated by the fact that no computer implemented methodology for creating FCMs is disclosed, the fact that FIG.s 4 and 5 illustrated FCMs formed by two experts, and the text in the second column of page 1560, beginning at the heading ‘IV. Aggregation FCM’...” (App. Br., page 12, middle).

While the quoted section of Ndousse may appear to refer to human experts, Ndousse clearly (also) teaches automated computerized expert systems. In the Examiner’s Answer, page 34, the Examiner has presented a litany of references in Ndousse, by page and line, that clearly indicate that automated expert systems are taught by the reference, with specific and sufficient clarity to anticipate the claims. We must also express concern at the Appellant’s relying on a limitation of automation “by implication.” (App. Br., page 12, middle). 35 U.S.C. 112 requires the claim limitations to be clearly set forth. However, in view of the Examiner’s numerous list of cites from Ndousse indicating automated processing of the fuzzy logic, we simply say that we do not find error in the rejection concerning this limitation.

Appellant’s third argument contends that Ndousse does not describe how to create a fuzzy cognitive map (FCM) fragment, but only what it represents. (App. Br., page 13, top). The claims indicate that the formation

of FCMs uses “network element interdependencies derived from a database defining the network managed objects and event notifications that convey the state of one or more managed objects.” (See claim 1) (emphasis added). Ndousse clearly teaches that *notifications* convey the state of the managed objects: on page 1559, for example, about 10 lines up from the bottom of the left column, Ndousse teaches models that convey information about the failure of a router in one segment of a network. In the next column, line 11 from the top, the router is repaired and a notice about that is conveyed using causal weight notations. These are clearly event notifications, as claimed. As an electronic model that contains information on the managed objects is itself a database, we find in Ndousse both elements of the claim, the database and the notifications. We thus do not find error in the Examiner’s use of the teaching of Ndousse in the rejection of the claims.

Appellant further contends that in the claims “[t]he FCM fragments, including interdependencies between the concept and event nodes are formed using the determined event nodes and concept nodes. Ndousse et al. ...describe the nodes as being representative of objects and concepts, not events and concepts as claimed.” (App. Br., page 17, top). We have considered this argument in view of the disclosure of Ndousse, and take notice that Ndousse does map the concepts and events. On page 1559, left column, 11 lines from the bottom, Ndousse maps the failure of a router. In the next column, he annotates the repair of the faulty router. These are events. Again on page 1560, left column bottom, Ndousse mentions the FCM maps of complicated fault conditions, such as high congestion and router failure. (See Figure 4). These are events; they involve objects, but

they are events involving the objects. We do not see error in the Examiner's rejection on this point.

Rejection under 35 U.S.C. § 103(a) [R2]

In presenting arguments against the rejection of claims 19 to 21, 32, 40, and 59 to 61 under 35 U.S.C. § 103, Appellant reapplies the four arguments present just above. As we did not find the arguments convincing under 35 U.S.C. § 102, we likewise find them non-convincing under 35 U.S.C. § 103. (App. Br., page 19).

CONCLUSION OF LAW

Based on the findings of facts and analysis above, we conclude that the Examiner did not err in rejecting claims 1 to 18, 22 to 31, 33 to 39, 41 to 58, 62, and 63 under 35 U.S.C. § 102(b) or claims 19 to 21, 32, 40, and 59 to 61 under 35 U.S.C. § 103(a).

DECISION

The Examiner's rejections of claims 1 to 18, 22 to 31, 33 to 39, 41 to 58, 62, and 63 under 35 U.S.C. § 102(b) and claims 19 to 21, 32, 40, and 59 to 61 under 35 U.S.C. § 103(a) are affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

tdl/ce

Appeal 2008-0292
Application 10/034,689

SCHWEGMAN, LUNDBERG & WOESSNER, P.A.
P.O. BOX 2938
MINNEAPOLIS MN 55402